

Work Order ID 58413-2

May 6, 2010 10:26:49 AM

SPL12



Page 1

Item ID: D6011-115
Revision ID:
Item Name: Crosstube Material

Accept



Setup Start
Stop



Start Date: 5/06/10 Start Qty: 30.00
Required Date: 6/30/10 Req'd Qty: 30.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan:
QC: CL

Date: Tooling:
Date: 10/5/10 SPC (Y/N):

Date:
Date:

Run Start
Stop



Sequence ID/
Work Center ID Operation
Description
Draw Nbr Revision Nbr
D6011 Rev A1

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

100
Purchasing
Purchasing

PURCHASING

0.00

Memo

0.00

Issue P/O: 11853 a) Order as per Dwg D6011 b) Material: 2.750
x 0.650 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11)
seamless aluminum tube c) Minimum ultimate tensile strength = 77 ksi d)
Minimum tensile yield strength = 66 ksi

CL 10/5/17

(30)

110
Packaging
Packaging

Receive & Inspect for Damage & Mat'l Certs

0.00

Memo

0.00

Ensure material certification is attached

CL 10/5/17

(11)
F6 = 17

120
QC
Quality Control

QC6- Inspect dimensions to drawing

0.00

Memo

0.00

Ensure Material certification comply to Dwg

5 10/6/10

(21)

Work Order ID 58413

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Page 2

Item ID: D6011-115

Revision ID:

Item Name: Crosstube Material

Start Date: 5/06/10

Start Qty: 30.00

Required Date: 6/30/10

Req'd Qty: 30.00

Reference:

Accept



Setup Start



Stop



Cust Item ID:

Customer:

Approvals:

Process Plan:

QC:

Date:

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Run Start



Stop



Sequence ID/
Work Center ID

130



HandFinish

Hand Finishing

Operation
Description

Chemical Conversion Coat per QSI005 4.1

Memo

Set Up/
Run Hours

0.00

0.00

NAS

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

140



Packaging

Packaging

Identify as per dwg & Stock Location: 26

Memo

0.00

0.00

Q.m 10-08-09

150



QC

Quality Control

QC21- Final Inspection - Work Order Release

Memo

0.00

0.00

10/08/09
MF
10-8-9

Picklist Print

May 6, 2010 10:26:47 AM

Page 1

Work Order ID: 58413

Parent Item: D6011-115

Parent Item Name: Crosstube Material

Comments: IPP Rev:A 01.08.17 New Issue SM
IPP rev B 07.09.18 rev A1 dwg

EC verified by:JLM

Start Date: 5/06/10

Required Date: 6/30/10

Start Qty: 30.00

Required Qty: 30.00

Component Item ID/
Item Name
D6011-115P

Replacement
Item ID

Mfg/
Purch
Purchased

Bin
Item
No

Primary
Location

Last
Location

Route
Seq ID
100

Unit of
Measure
Each

Qty on
Hand
0.0000

Qty per Kit

Qty
Issued

Date
Issued

Status



Crosstube Material



Rec'd 5/4 (11)

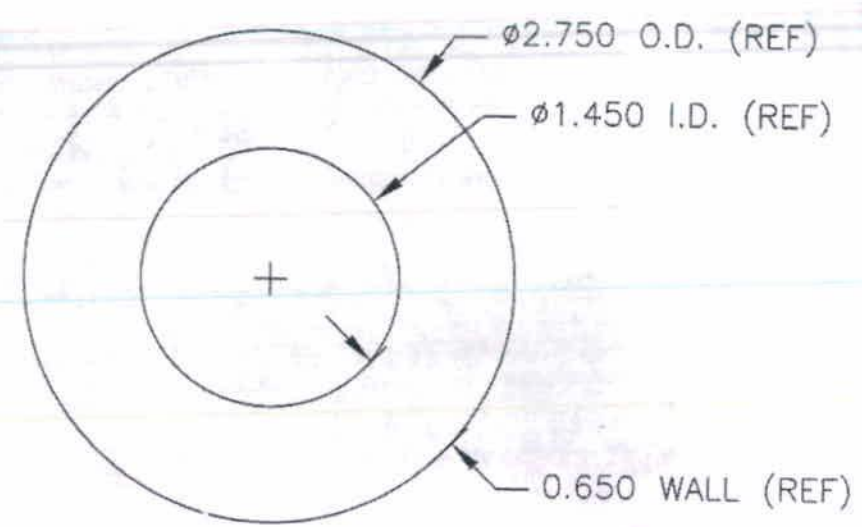


DESIGN	<i>[Signature]</i>	DRAWN BY	<i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED	<i>[Signature]</i>	APPROVED	<i>[Signature]</i>	DRAWING NO. D6011	REV. A
DATE 01.08.16				TITLE CROSSTUBE MATERIAL	SHEET 1 OF 1
A				01.08.16	NEW ISSUE
A1				02-01-29	UPDATE TOLERANCE ON OD

SPECIFICATION CONTROL DRAWING

RELEASED
01.08.17 *[Signature]*

C/L 101516
W10:58413



NOTES

- 1) D6011-XXX CROSSTUBE
LENGTH
WHERE XXX IS LENGTH IN INCHES
EG. 115" LONG TUBE: D6011-115
- 2) MATERIAL: 2.750 OD x 0.650 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS: ANSI H35.2 AS FOLLOWS
O.D.: ± 0.006 MEAN (± 0.012 INCLUDING OVALITY) ± 0.015 MEAN (± 0.030 INCL. OVALITY)
WALL: ± 0.020 MEAN (± 0.065 INCLUDING ECCENTRICITY)
LENGTH: XXX $+0.125/-0.000$
STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PO REPRINT

Purchase Order ID PO11853

Purchase Order Date 5/07/10

PO Print Date 5/11/10

Page Number 1 of 2

Order From :

VU-ALU001

ALUMINIUMWERK UNNA AG
UELZENER WEG 36, 59425 UNNA
GERMANY, GERMANY

Contact Name

Vendor Phone 303 755 5936

Vendor Fax 303 755 5672

Vendor Account Nbr

Buyer

Chantal Lavoie

Requisition Nbr

Tax Resale Nbr 10127-2607

Terms

Net 30

Currency

USD

FOB

Ship To :

DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED
6/15/12

Line Nbr	Reference Revision ID Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	Req. Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price
1	D6008-132P	Crosstube extrusion	8/27/10 Yes	10.00 Each		\$1,121.0000	\$11,210.00

Special Inst: AS PER DWG D6008 REV. A
B58414
MATERIAL: 7075-T6/T6511 (WW-T-
700/7 OR QQ-A-225/9
OR QQ-A-200/11 SEAMLESS TUBE
SIZE: 3.250" X 0.438" WALL
LENGTH: 132"
MINIMUM ULTIMATE TENSILE
STRENGTH = 77 KSI
MINIMUM TENSIL STRENGTH = 66
KSI
TOLERANCE ARE PER ASTM B210

2	D6011-115P	Crosstube Material	8/27/10 Yes	15.00 Each		\$1,065.0000	\$15,975.00
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Special Inst: AS PER DWG D6011 REV. A
B58413
MATERIAL: 7075-T6/T6511 (WW-T-
700/7 OR QQ-A-225/9
OR QQ-A-200/11 SEAMLESS TUBE
SIZE: 2.750" X 0.650" WALL
LENGTH: 115"

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY

5/11/10

ALUnna ref. no.	36643/2
Customer PO.	P.O.11853
Date:	07.07.10

Dart Aerospace / P.O. 11853 / D6011-115
Made in Germany / Dest. Hawkesbury Ont, Canada



ALUnna

free from live plant pests

[illegible]

Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005

Inspection Certificate 3.1 - DIN EN 10204:2005 I Certificat de Reception 3.1- DIN EN 10204:2005

Kunde: Dart Aerospace Ltd.
Client:

Zeugnisnummer: 882/10

Cert No.: / No. du certificat:

Bestellnummer: PO11853 / PO12020

Order No. / No. de commande

Auftrag: 36643/2

Our Reference/Notre Reference:

Produkt:

Product / Produit:

Spezifikation:

Specification:

Werkstoff:

Alloy/Alliage:

Abmessung

Size / Dimension

Kennzeichnung

Marking/Marquage:

Lieferung:

Delivered Material / Matériel délivré:

pcs.

11

lbs

551

Zustand:

Temper/Etat

7075

T6511

2,750 INCH x 1,450 INCH x 0,650 INCH x 115,00 INCH
buff finish

ALUnna-Cert.No.882/10-7075-T6511-Cast No.3540-AMS-QQ-A-200/11-2.750"OD x 0.650"Wall-Heat Lot No.800916-
ALUnna Order Conf.No.36643/2-1-P.O.11853

1. Chemische Analyse

Chemical Analysis / analyse chimique

	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ min.			1,2		2,1	0,18	5,1						
Cast No. max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
3540/09	0,100	0,196	1,558	0,060	2,593	0,188	5,685	0,039	0,002	0,0291	0,0001	0,0013	0,0050

Country of Manufacture: Germany

Elements without indication < 0,01 %

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi	yield (Rp0,2) ksi	elongation 2" %	elongation A %	Hardness HB	Heat Lot No.
min.	77,0	66,0				
max.						
1	87,870	80,765	11,0			
2	88,595	81,780	11,0			
						800916 - 11 pcs.

RMS outside 25 - max. 9,9 µ"

**Ergebnis der
Prüfungen:**

Test results:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der
Bestellannahme entspricht
We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

07.07.2010 / Kr



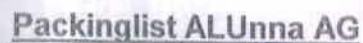
Certified acc. DIN EN ISO 9001:2000 and DIN EN 9100:2003
valid until 2010-11-11

Cert.-Req. No.: 001959 QM; 001959 ASH

Aluminiumwerk Unna AG, Uelzener Weg 36, 50476 Uelzen

ALUnna

Abnahme



Boxmarking:

We hereby declare that the wooden packing material are totally free from bark and apparently

free from live plant pests

S:\VERSAND\USA_Packliste\im Lager_USA\38643_2_Luft

Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005

Inspection Certificate 3.1 - DIN EN 10204:2005 / Certificat de Reception 3.1- DIN EN 10204:2005

Kunde: Dart Aerospace Ltd.
Client:

Zeugnisnummer: 882/10

Cert No.: / No. du certificat:

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Bestellnummer: PO11853 / PO12020

Order No. / No. de commande

Produkt: Rohre nahtlos gepresst

Auftrag: 36643/2

Product / Produit: Tubes seamless extruded

Our Reference/Notre Référence:

Spezifikation: AMS - QQ - A - 200/11; Spezifikation Dart Aerospace D6011-XXX

Specification:

Werkstoff: 7075

Zustand: T6511

Alloy/Alliage:

Temper/État

Abmessung 2,750 INCH x 1,450 INCH x 0,650 INCH x 115,00 INCH
Size / Dimension buff finish

Kennzeichnung ALUnna-Cert.No.882/10-7075-T6511-Cast No.3540-AMS-QQ-A-200/11-2.750"OD x 0.650"Wall-Heat Lot No.800916-
Marking/Marquage: ALUnna Order Conf.No.36643/2-1-P.O.11853

Marking/Marquage:

Lieferung:

Lieferung:

Delivered Mat

Delivered Material / Matériel délivré:

DCS.

lbs

6

300

1. Chemische Analyse

Chemical Analysis / analyse chimique

		Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
Charge/ Cast No.	min.			1,2		2,1	0,18	5,1						
	max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					
3540/09		0,100	0,196	1,558	0,060	2,593	0,188	5,685	0,039	0,002	0,0291	0,0001	0,0013	0,0050

Country of Manufacture: Germany

Elements without indication < 0,01 %

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

[illegible]

RMS outside 25 - max. 9,9 μ "

Ergebnis der Prüfungen:

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

